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An Assessment of the Physician Payment Review Commission's Proposed Geographic Areas for the Medicare Fee Schedule

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EXECUTIVE SUMMARY

On January 1, 1992 the Medicare program will start to phase-in a fee schedule for physician services, which will include geographic adjustments to reflect practice cost differences. The geographic areas will be Medicare's current payment localities. However, the Physician Payment Review Commission (PPRC) was mandated by Congress to propose a new set of geographic areas on which to base the new fee schedule. It has now released its report. The Urban Institute (UI) has also developed options.

The PPRC proposal, a simplified version of the areas used by Medicare's Prospective Payment System (PPS) for hospitals, takes Metropolitan Statistical Areas (MSAs) as its building blocks. This proposal would subdivide, according to MSA population size, the 15 states with the highest variation in physician practice cost. Whereas currently there are 240 localities, 16 of which are statewide, the PPRC proposal would have 97 payment areas, of which 22 would be statewide. Another 15 states would be subdivided according to MSA population size. Each of the remaining 13 states (e.g., Oklahoma and Nebraska) would be a single payment area, except that each would have a few counties split off and attached to an adjacent state for payment purposes.

The UI approach delineates urban cores according to population density. The core would consist of the densest county in each Consolidated Metropolitan Statistical Area (CMSA), plus any other counties in the CMSA with a density over 6,000 persons per square mile. The Simple Option defines urban cores for CMSAs over 3 million population. The Extended Option defines cores for CMSAs over 1 million population. The Simple Option would have 63 payment areas, of which 40 would be statewide areas. The Extended Option would have 85 payment areas, of which 25 would be statewide areas.

The major policy tradeoffs are simplicity versus recognition of input price variations, and the extent to which rural areas versus suburban rings gain or lose. Relative to the UI options, the PPRC proposal is somewhat more complex. Given the concern over physician payment in rural areas, it is important to note that although the PPRC proposal would increase rural GPCI values in some states (e.g., Wisconsin) and decrease them in others (e.g., Texas), it would lower the average GPCI value slightly for rural areas nationwide. The UI Extended Option would raise the national average rural GPCI over the status quo. The UI Simple Option would raise it slightly more.

AN ASSESSMENT OF THE PHYSICIAN PAYMENT REVIEW COMMISSION'S PROPOSED GEOGRAPHIC AREAS FOR THE MEDICARE FEE SCHEDULE

On January 1, 1992 the Medicare Fee Schedule (MFS) for physicians will begin implementation. This new payment system incorporates a Geographic Practice Cost Index (GPCI) designed to recognize geographic differences in practice costs that are outside the physicians' control. In addition to the index itself, specification of a set of geographic areas is needed for implementation of the index. Medicare pricing localities will be used in implementing the MFS, pending a congressionally mandated study by the Physician Payment Review Commission (PPRC) to develop an alternative set of geographic payment areas.

The PPRC has now released its report. This working paper assesses the PPRC's proposed system and compares it to options developed by The Urban Institute (UI) under contract to the Health Care Financing Administration. Section I presents some background. Section II describes the PPRC proposal. Section III describes the Urban Institute's approach. Section IV compares the merits of the two approaches. Section V provides a conclusion.

I. CURRENT MEDICARE PAYMENT AREAS

Two types of geographic areas are now used for payment adjustment by the Medicare program. Medicare currently varies payment to physicians by 240 pricing localities. It also currently pays hospitals under the Prospective Payment System (PPS), which divides the urban areas of the country into primary Metropolitan Statistical Areas (MSAs) and groups the rural areas of the country into residual payment areas, one for each state.

Discussions of PPS and other configurations involve related concepts of the Census Bureau. In delineating MSAs, the Census Bureau first delineates metropolitan areas. A metropolitan area with a population above 1 million may be subdivided into primary MSAs. Then the metropolitan area is termed a Consolidated Metropolitan Statistical Area (CMSA), as distinct from a metropolitan area that is not subdivided, called a free-standing MSA.

The pricing localities are problematic as the basis for physician payment because there is no overall rationale underlying their designation. They are designated by the Medicare carriers and are quite different across the country.

As a set of geographic areas for physician payment adjustment, the primary MSAs used in the PPS system have weaknesses. First, use of primary MSA population size instead of CMSA population size may leave some intensely urban areas undercompensated in the payment adjustment process. San Francisco and Jersey City, for example, are in two of the most urban counties in the country, but because of the way their CMSAs are divided, neither is in PPRC's category of largest MSAs.

Second, treating practice costs the same throughout an MSA ignores a major pattern of cost variation. It implies, for example, that the cost of practice is the same in the District of Columbia as in Frederick County, which is an outlying part of the Washington D.C. MSA, and the same in Cook County as in McHenry County, which is an outlying part of the Chicago MSA. This is in contrast to both spatial economic theory and empirical patterns of earnings (Welch and Zuckerman, 1991, Table IV-1). For instance, within CMSAs with populations exceeding 3 million, physician employee wages are 11.8 percent above the national mean in the densest counties, 6.7 percent above the national mean in the moderately dense counties, and 1 percent below the national mean in the least dense counties.

II. THE PPRC PROPOSAL

A fundamental dilemma in designating geographic areas for payment purposes is choosing areas that correlate well with practice costs without making the system so complex that it is hard to implement and to understand. The PPRC proposal takes statewide payment areas as a starting point and then subdivides the 15 states with the greatest variation in practice costs—as measured by the variance in the GPCI computed at the county level—according to MSA population size (PPRC, 1991).[1] These 15 states are: California, Florida, Georgia, Illinois, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New York, Pennsylvania, Texas, and Virginia. The population cutoffs for subdivision within these states are as follows:

MSAs with populations above 3 million;

MSAs with populations between 1 and 3 million;

MSAs with populations between 250,000 and 1 million;

MSAs with populations below 250,000 million;

Rural areas.

This configuration is a simplified version of the PPS configuration. Of the 15 states, only California, New York, Pennsylvania, and Texas have all 5 MSA groups.

It cannot be assumed from the decision to subdivide only 15 states in this manner that "only 15 states would be subdivided" (PPRC, 1991, p. 111). This is because PPRC also decided not to subdivide metropolitan areas that cross state

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1. The GPCI captures variations in employee wages, office rents, and malpractice premiums, and one-quarter of the variation in the costs of physician time. Data on earnings from the 1980 Census for professionals and physician employees are available at the county level, as are HUD housing rents for rural counties. Malpractice premiums are available only at the level of malpractice pricing areas.

lines. Each of those metropolitan areas would be treated as one payment area and assigned to the state with the largest share of the population in the metropolitan area. For instance, all of Nebraska would be in one payment area except for Dakota County, which by virtue of being in the Sioux City, Iowa MSA would be treated as it were were part of Iowa. And Pottawattamie County (Council Bluffs) in the Omaha MSA would be part of the Nebraska payment area, although the county is actually in Iowa.

As a result of MSAs that cross state lines, each of 13 additional states would in fact have one or more metropolitan counties assigned to another state (see Table 1). This implies, in turn, that other states (e.g., Tennessee), although themselves not subdivided, would have counties from adjoining states assigned to them. In 1990 Congress authorized the Secretary of Health and Human Services, contingent on sufficient support from the relevant congressional delegations and physician groups, to create statewide payment areas for Nebraska and Oklahoma. Neither of these states would be a completely statewide payment area under the PPRC proposal.

In a sense, PPRC started with the PPS configuration used in Welch, Zuckerman, and Pope (1989), and considered how it might be simplified. The PPRC simplification strategy makes the reasonable assumption that the cost of practice varies little across metropolitan areas of similar size in the same state. The PPRC proposal has two advantages over the PPS configuration: First, it yields 97 payment areas, versus about 370 under PPS. Second, because small MSAs in the same state would be combined for payment purposes, the GPCI may be more precise, being based on mean earnings from the Census with larger sample sizes than under the PPS configuration.

The PPRC proposal, however, retains two weaknesses (noted above) of the PPS configuration: First, it defines metropolitan areas in terms of MSAs

instead of CMSAs, which the Census Bureau considers the fundamental geographic unit. Therefore, the MSA categories are heterogeneous in terms of urbanization. Second, it assumes that the cost of practice is the same throughout an MSA--in the center of a metropolitan area as well as in the periphery.

III. THE URBAN INSTITUTE APPROACH

The Urban Institute approach to designating geographic payment areas also takes statewide areas as its starting point (Welch and Zuckerman, 1991). It then delineates urban cores of large metropolitan areas--defined using CMSAs--on the basis of population density calculated at the county level. (Note that freestanding MSAs over a million in population are included in this definition of CMSA, making it more inclusive than the Census definition of CMSA.) The rationale for this type of division is the finding of spatial economics that costs are higher in the urban core of a metropolitan area than in the suburban ring surrounding the core. In the UI approach, the core of a CMSA is defined as the county with the highest population density and any other counties with densities exceeding 6,000 persons per square mile.

Two major variants are distinguished. The Simple Option defines cores for CMSAs with populations exceeding 3 million population. The Extended Option defines cores for CMSAs with populations exceeding 1 million.[2] In each case, the rest of the state becomes a single payment area, and in states where the

2. In Welch and Zuckerman (1991), the Simple Option is labeled the Large-CMSA Option in Chapters II and V. The Extended Option has the same population size and density thresholds as the option developed in Chapter VI, but here the building blocks are counties, whereas in Chapter VI they are the current localities.

GPCI value for the core is no higher than the GPCI for the residual area, no core is distinguished.[3]

IV. COMPARISON BETWEEN THE PPRC PROPOSAL AND THE URBAN INSTITUTE OPTIONS

This section compares the two approaches along several dimensions, starting with simplicity.

Simplicity

Although it is simpler than the current system used for Medicare PPS, the PPRC proposal is more complex than either of the UI options. It would have 97 payment areas,[4] of which 22 would be statewide. The UI Simple Option would have 63 payment areas, of which 40 would be statewide. The UI Extended Option would have 85 payment areas, of which 25 would be statewide. The current localities have 240 payment areas, of which 16 are statewide.[5]

Not only would the PPRC proposal have more payment areas, but also the typical (nonrural) payment area would be more complex under the PPRC proposal than the UI options, having more and often noncontiguous counties. This increases the difficulty of explaining the configuration to physicians and other interested parties.

The attached maps illustrate the difference in simplicity between the two approaches. Map 1 shows how the PPRC proposal would treat Texas. It would

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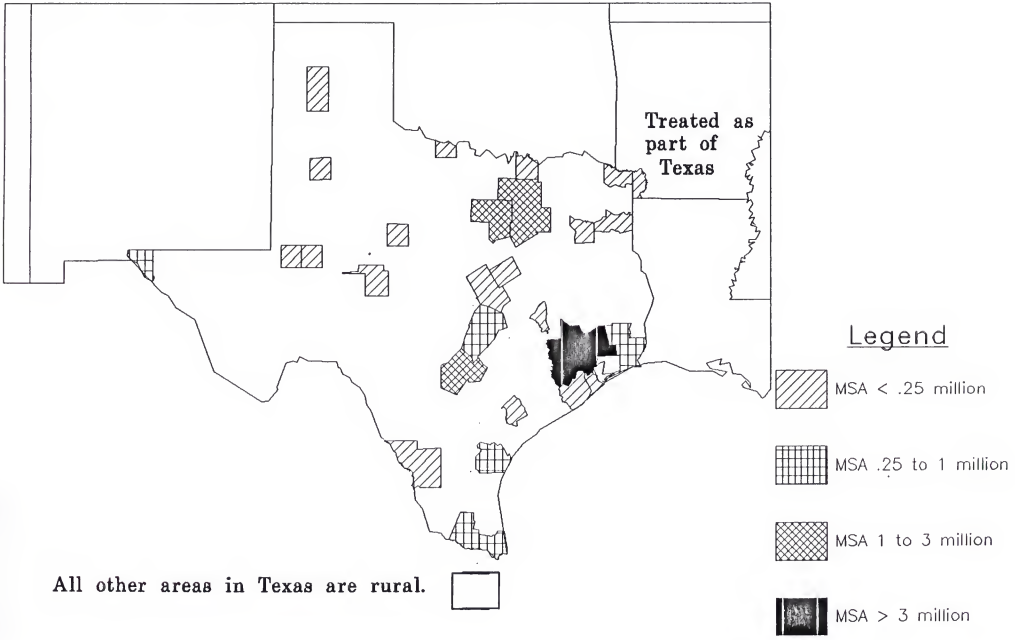
3. This last characteristic affects 4 CMSAs in the Extended Option and none in the Simple Option.

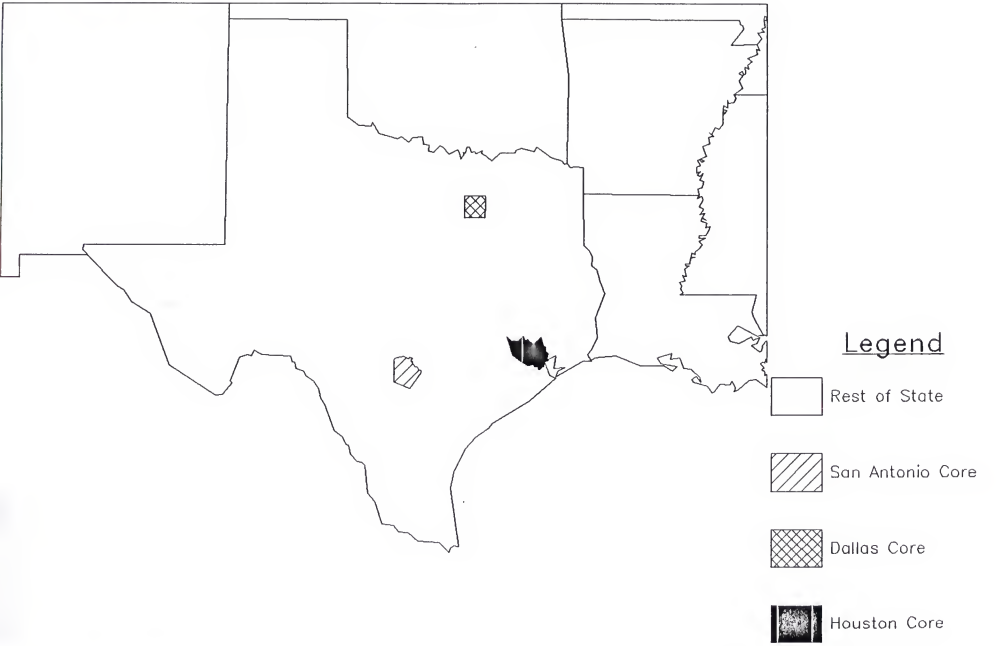
4. This figure represents the 94 payment areas mentioned in the PPRC report plus Alaska, Hawaii, and Puerto Rico.

5. Counts of the statewide payment areas exclude the District of Columbia and Puerto Rico.

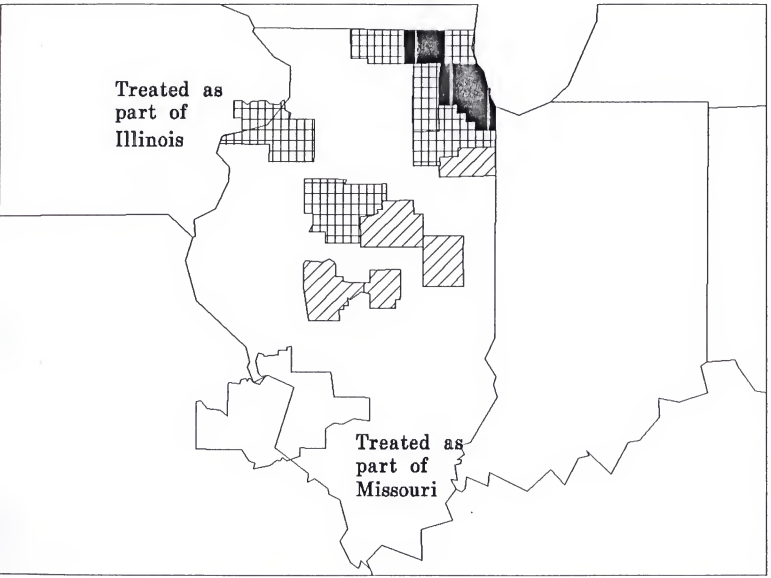
Map 1. PPRC Proposal, Texas



Map 2. UI Extended Option, Texas



Map 3. PPRC Proposal, Illinois



Legend

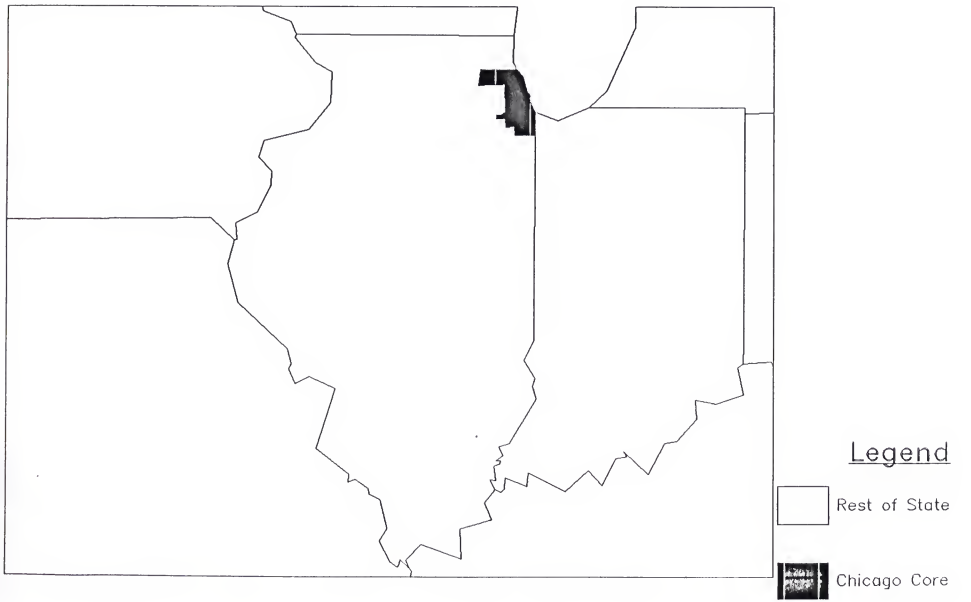
MSA < .25 million

MSA .25 to 1 million

MSA > 3 million

All other areas in Illinois are rural, except where noted.

Map 4. UI Extended Option, Illinois



yield 5 payment areas. The Houston MSA, being the only MSA with a population above 3 million, would be one payment area.[6] Another area would have the MSAs with populations between 1 and 3 million: Dallas, San Antonio, and Fort Worth. The six MSAs with populations between 250,000 and 1 million would constitute a third payment area, and the remaining 15 MSAs a fourth area.[7] Rural areas constitute the final area. Map 2 shows how the UI Extended Option would treat Texas. It would have four payment areas.

Map 3 shows the PPRC proposal for Illinois. There would be four payment areas. In addition, since Illinois has two MSAs that cross state lines, the Iowa part of the Davenport-Rock Island-Moline MSA would be added to Illinois and the Illinois part of the St. Louis MSA would be added to Missouri, even though the Illinois carrier would still process the St. Louis MSA claims. Map 4 shows the UI Extended Option for Illinois. There would be only two areas: Cook County and the rest of the state.

Tracking Cost of Practice

In considering how well alternative configurations track the cost of practice, it is helpful to compare each to some well-accepted baseline configuration, such as the MSA configuration (Welch, Zuckerman, and Pope, 1989). Relative to this baseline, both proposals ignore cost differences within states that, on either empirical or conceptual grounds, are likely to be small. The PPRC proposal results in GPCIs that capture differences among MSAs

6. Although treated as having a population between 1 and 3 million in the PPRC report, by 1988 the Houston primary MSA had a population of 3.2 million (U.S. Bureau of the Census, 1989). Note that the Dallas CMSA has a population above 3 million but the Dallas MSA (which excludes Fort Worth) does not.

7. Because some of the MSAs are contiguous, not all are easily distinguished on the map.

of various sizes and between them and rural areas, but do not reflect the higher costs in the cores of large CMSAs. The UI approach, in contrast, recognizes the higher costs in urban cores, but downplays geographic differences among noncore urban areas and between them and rural areas. In addition, the PPRC proposal shares the weakness, noted earlier in discussing the PPS system, that it may undercompensate several intensely urban MSAs (for example, San Francisco) relative to their counterparts in CMSAs that are configured differently.

Both the PPRC and UI proposals, as well as the status quo, have payment area boundaries in the middle of metropolitan areas. As a result, Medicare would pay physicians whose practices are geographically close at different rates. This problem is inevitable in systems that make any distinctions within metropolitan areas.

This problem is noteworthy, because PPRC is explicit in not subdividing MSAs (p. 108, 112). As noted above, in large metropolitan areas, primary MSAs are simply subsections of the metropolitan area. Two examples illustrate the impact: the PPRC proposal would separate Queens and Nassau Counties in the New York metropolitan area and Los Angeles and Orange Counties in the L. A. area. In both cases, the boundary is in highly urbanized neighborhoods.

Treatment of Rural Areas

Since physician payment in rural areas is a particularly contentious issue with respect to the MFS, it is important to know how the two approaches would affect rural GPCI values. Since GPCI values defined in terms of MSAs and rural areas tend to be lowest for rural areas and to increase with CMSA population size, the more urban areas that are included with rural areas, the higher the GPCI values applied to rural areas.

Table 2 presents the GPCI values for rural areas, by state, under the status quo, the PPRC proposal, and the two UI options. The options are shown across the table in descending order of complexity, as measured by the number of statewide payment areas. As a group, rural areas have an average GPCI of .937 under the status quo. The PPRC proposal would slightly decrease the average rural GPCI to .933. The UI Extended Option would increase average rural GPCI to .951, and the UI Simple Option would increase it further to .953.[8] As noted, the number of statewide payment areas would increase from 16 under the status quo, to 22 under the PPRC proposal, to 25 under the UI Extended Option, and finally to 40 under the UI Simple Option.

To understand the impact of the PPRC proposal, first consider the states that are not statewide payment areas under the status quo but would be (or nearly so) under the PPRC proposal. In those states, rural GPCI values would tend to increase. In rural Wisconsin, for instance, GPCI values would increase from .931 to .957. But in the states that would be subdivided by MSA population, rural GPCI values would decrease. In rural Texas, for instance, GPCI values would decrease from .906 to .890. This is because a number of suburban counties—for instance, in the Dallas and Houston MSAs—are in rural localities at present.[9] These suburban counties have higher GPCI values (defined in terms of MSAs and rural areas) than rural areas, so removing them from rural localities would lower GPCI values applied to rural areas.

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8. Under statewide payment areas, the average GPCI value for rural areas would be .961.

9. The Houston MSA has five counties. Harris County (Houston) is surrounded (except to the southeast) by the MSA counties of Fort Bend, Waller, Montgomery, and Liberty. Harris is its own pricing locality; the other four counties are in a rural locality. A similar situation exists for the Dallas MSA.

Under the UI Extended Option, rural GPCI values would remain constant or increase, the only exceptions being slight drops in Colorado, Rhode Island, and Utah. Under the UI Simple Option, rural GPCI values would either remain constant or increase, with no exceptions. For both UI options, this results from including most urban areas with rural areas. Conversely, small and medium-sized metropolitan areas and the suburbs of large metropolitan areas would have higher GPCI values, on average, under the PPRC proposal than under the UI options.

V. CONCLUSION

Simplicity aside, the policy issue may center on the fundamental rationale behind the decision to make geographic adjustments. If the intent is to reflect the measured differences in the input prices incorporated in the GPCI (namely, employee wages, office rents, physician time, and malpractice premiums), the PPRC proposal may be stronger than the UI approach.

If the ultimate objective of the payment adjustment is to reduce the mismatch between physician demand and physician supply, strict reflection of input price differences among MSAs of different sizes may be less important. Small metropolitan areas and the suburbs of larger ones are often seen as attractive areas for physicians. If policymakers want to keep the payment system simple by not recognizing all of the differences in measured input prices, the UI approach may be superior.

REFERENCES

[PPRC] Physician Payment Review Commission. 1991. Annual Report to Congress, 1991. Washington, DC, Chapter 5.

U.S. Bureau of the Census, Public Information Office. 1989. News release. September 8.

Welch, W. Pete, and Stephen Zuckerman. 1991. "Geographic Payment Areas for the Medicare Fee Schedule: Alternative Approaches." Urban Institute Working Paper #3839-03-02, May.

Welch, W. Pete, Stephen Zuckerman, and Gregory Pope. 1989. "The Geographic Medicare Economic Index: Alternative Approaches." Urban Institute Working Paper #3839-01-01, June.

Table 1

Payment Areas that are Almost Statewide
Under the PPRC Proposal, by State

State	Counties Excluded from the State (MSA Name)
Alabama	Russell (Columbus GA-AL)
Arkansas	Crittenden (Memphis TN-AR-MS) Miller (Texarkana TX-Texarkana AR)
Indiana	Clark, Floyd, Harrison (Louisville KY-IN) Dearborn (Cincinnati OH-KY-IN)
Iowa	Scott (Davenport-Rock Island-Moline IL-IA) Pottawattamie (Omaha NE-IA)
Kentucky	Boone, Campbell, Kenton (Cincinnati OH-KY-IN) Christian (Clarksville-Hopkinsville TN-KY) Henderson (Evansville IN-KY) Boyd, Carter, Greenup (Huntington-Ashland WV-KY-OH)
Mississippi	DeSoto (Memphis TN-AR-MS)
Nebraska	Dakota (Sioux City IA-NE)
New Jersey	Burlington, Camden, Gloucester (Philadelphia PA-NJ) Salem (Wilmington DE-NJ-MD) Warren (Allentown-Bethlehem PA-NJ)
Ohio	Lawrence (Huntington-Ashland WV-KY-OH) Belmont (Wheeling WV-OH) Washington (Parkersburg-Marietta WV-OH)
Oklahoma	Sequoyah (Fort Smith AR-OK)
South Carolina	Aiken (Augusta GA-SC) York (Charlotte-Gastonia-Rock Hill NC-SC)
West Virginia	Mineral (Cumberland MD-WV) Brooke, Hancock (Steubenville-Weirton OH-WV)
Wisconsin	St. Croix (Minneapolis-St. Paul MN-WI) Douglas (Duluth MN-WI)

Note: Several other states (e.g., Tennessee) would be in statewide payment areas that include counties in other states.

Table 2

GPCI Values in Rural Areas Under
Alternative Configurations

State	Status quo[a]	PPRC Proposal	Urban Institute Options	
			Extended[b]	Simple[b]
Number of payment areas				
Total	240	97	85	63
Statewide[c]	16	22	25	40
U.S., Rural Mean[a]	.937	.933	.951	.953
Alabama	.920	.927	.927*	.927*
Alaska	1.162*	1.162*	1.162*	1.162*
Arizona	.982	1.005*	.984	1.005*
Arkansas	.882*	.881	.882*	.882*
California	1.045	1.013	1.090	1.088
Colorado	.977*	.977*	.971	.977*
Connecticut	1.035	1.048*	1.048*	1.048*
Delaware	1.002*	1.010*	1.002*	1.002*
Florida	.954	.923	.972	.972
Georgia	.902	.894	.930	.935*
Hawaii	1.041*	1.041*	1.041*	1.041*
Idaho	.948	.948*	.948*	.948*
Illinois	.966	.952	1.004	1.004
Indiana	.924	.937	.935	.937*
Iowa	.925	.929	.932*	.932*
Kansas	.939	.919	.947*	.947*
Kentucky	.919	.920	.923*	.923*
Louisiana	.929	.909	.949	.957*
Maine	.925	.928*	.928*	.928*
Maryland	1.000	.954	1.043*	1.043*
Massachusetts	1.019	.981	1.033	1.033
Michigan	1.005	.969	1.033	1.033
Minnesota	.946	.926	.962	.973*
Mississippi	.896	.901	.902*	.902*
Missouri	.927	.915	.956	.963*

State	Status Quo[a]	PPRC Proposal	Urban Institute Options	
			Extended[b]	Simple[b]
Montana	.937*	.937*	.937*	.937*
Nebraska	.885	.902	.900*	.900*
Nevada	1.051	1.057*	1.057*	1.057*
New Hampshire	.962*	.962*	.962*	.962*
New Jersey	NA	NA	NA	NA
New Mexico	.947*	.947*	.947*	.947*
New York	.981	.957	1.020	1.020
North Carolina	.898	.902*	.901	.902*
North Dakota	.921*	.923*	.921*	.921*
Ohio	.952	.969	.963	.969*
Oklahoma	.907	.921	.920*	.920*
Oregon	.984	.990*	.985	.990*
Pennsylvania	.962	.949	.992	.993
Rhode Island	.989*	.989*	.987	.989*
South Carolina	.902*	.901	.902*	.902*
South Dakota	.898*	.898*	.898*	.898*
Tennessee	.908*	.910*	.908*	.908*
Texas	.906	.890	.919	.920
Utah	.962*	.962*	.956	.962*
Vermont	.919*	.919*	.919*	.919*
Virginia	.913	.902	.955	.955
Washington	1.001	1.012*	1.002	1.012*
West Virginia	.917	.929	.927*	.927*
Wisconsin	.931	.957	.948	.958*
Wyoming	.948*	.948*	.948*	.948*

* Statewide payment area

a. Average GPCI over rural counties, weighted by 1980 population.

b. Both options define urban cores using a population density threshold of 6,000 persons per square mile. The Simple Option defines cores only in metropolitan areas with populations exceeding 3 million. The Extended Option defines them in metropolitan areas with populations exceeding 1 million.

c. Excludes the District of Columbia and Puerto Rico.